



CNMS DISCOVERY SEMINAR SERIES

Friday, May 16, 2008

11:00 am

Iran Thomas Auditorium, 8600

Light refreshments will be served

**“Quantum growth and related phenomena
in metallic thin films”**

C. K. Shih

Department of Physics, University of Texas, Austin

Abstract:

In ultra-thin epitaxial metallic films, confinement of electronic states along the vertical direction leads to the formation of quantum well states (QWS). Over the past few years it has been shown that such QWS have profound effects on the thermodynamic stability as well as the kinetic processes of metallic thin film formation. More recently, it has been found that QWS can also impact other physical/chemical properties. This talk will present several new developments including (a) the quantum size effect on superconductivity in the ultra-thin film regime (approaching a single atomic layer); and (b) manipulation of the energetic balance for spontaneous formation of novel nanostructures.

Contact: An-Ping Li (apli@ornl.gov), 865.576.6502

